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A TALE OF TWO MOSQUES: MARRAKESH'S MASJID AL-JAMIʿ AL-KUTUBIYYA

In the field of Islamic art history, the architectural contributions of the Almohad movement in the twelfth- and thirteenth-century Maghrib and al-Andalus, though well documented, have received limited scholarly attention. This is partly due to the nature of the extant material: Almohad monuments on the Iberian Peninsula have been so adapted and changed that little of their original forms are left, while the North African monuments, largely concentrated in what is today Morocco, either have been demolished or are inaccessible to non-Muslims. The contemporary sources compound this difficulty, as most of them were commissioned for or by the Almohad court and therefore focus (albeit only briefly) on the construction of dynastic monuments as part of the caliph's public duty, leaving scholars little context in which to understand how these buildings functioned over time. And yet the contributions of the Almohad movement, led by the Mu'minid caliphate established by its first caliph, ʿAbd al-Mu'min (d. 1163), mark a significant transition in the architectural and political history of the Islamic West. Together with their Maghribi predecessors, the Almoravids, the Almohads ushered in an era of urbanism in a region historically resistant to larger settlements, and created an architectural idiom that blended the influences of Umayyad Cordoba and Abbasid Baghdad with more local references to their Berber heritage and African environment. It becomes all the more important, then, to engage with Almohad architecture on its own terms, rather than characterize it as passively receptive to outside influences.

This paper aims to do so through a close examination of the primary dynastic monument of the Almohads: the congregational Friday mosque known as the Kutubiyya, in the Almohad capital of Marrakesh. Built in the middle of the twelfth century, the Kutubiyya is unique in plan, with two prayer halls seemingly wedged apart by the site's monumental minaret. Only the second prayer hall, built within ten years of the first, is extant today, though the earlier structure was excavated and published in the 1920s under Jacques Meunié, Henri Terrasse, and Gaston Deverdun, whose work remains invaluable for its thorough description of the site. Attempts to explain the addition of the second prayer hall and its orientation relative to the first have theorized a rapidly expanding population in Marrakesh or the need to adjust the qibla direction, but none appear conclusive or go beyond a formalist reading of the site and the official narratives given us by the sources. This paper aims to deepen our understanding of the Kutubiyya by situating its construction within the larger intellectual and legal conversations taking place in the twelfth-century Maghrib—conversations about the role of the congregational mosque in the collective urban experience and in the dynasty's religio-political agenda.

Construction on the Kutubiyya began almost immediately after ʿAbd al-Mu'min's conquest of Marrakesh, following the closing or demolition (the historical accounts disagree as to which) of the major Almoravid mosque built by ʿAli ibn Yusuf (d. 1143) and known as the Masjid al-Siqaya (Mosque of the Fountain) for the expensive marble basin that occupied the courtyard.[1] With the effacement of Almoravid architectural reminders, ʿAbd al-Mu'min was then free to make his own impression on the new capital city, beginning with a new congregational mosque to serve as the centerpiece of imperial Almohadism. Construction on the Kutubiyya broke ground in 1147, over the remains of the Almoravid palace built by ʿAli ibn Yusuf. Indeed, the northern ex-

terior wall of the mosque's current iteration was likely reused from this prior construction, and excavations by Jacques Meunié suggest that it may even have been the site of ʿAli ibn Yusuf's funerary enclosure.[2] The original Kutubiyya follows a Maghribi precedent typified by the congregational mosques at Qayrawan, Cordoba, and Fez: a single-storied hypostyle hall with a courtyard for ablutions positioned axially opposite the qibla wall. The typology dictates a T-shape plan, with a larger central aisle typically positioned down the mihrab axis and another transversely crossing along the qibla wall. Under ʿAbd al-Muʾmin's patronage the type had already been employed at the mosque in Taza, founded only five years earlier to mark the presence of the Almohad movement at a strategic crossroads in the Rif.[3] At the Kutubiyya, this layout was further elaborated into three wider central aisles along the mihrab axis, with seven smaller aisles to either side (for a total of seventeen longitudinal aisles). The eastern and western walls contained four entrances each, with three of those entrances opening directly into the prayer hall and the fourth onto the courtyard. The north wall contained a single public entrance along the central mihrab axis, while the southern wall had two entrances for private use by the imam, caliph, and caliphal retinue.

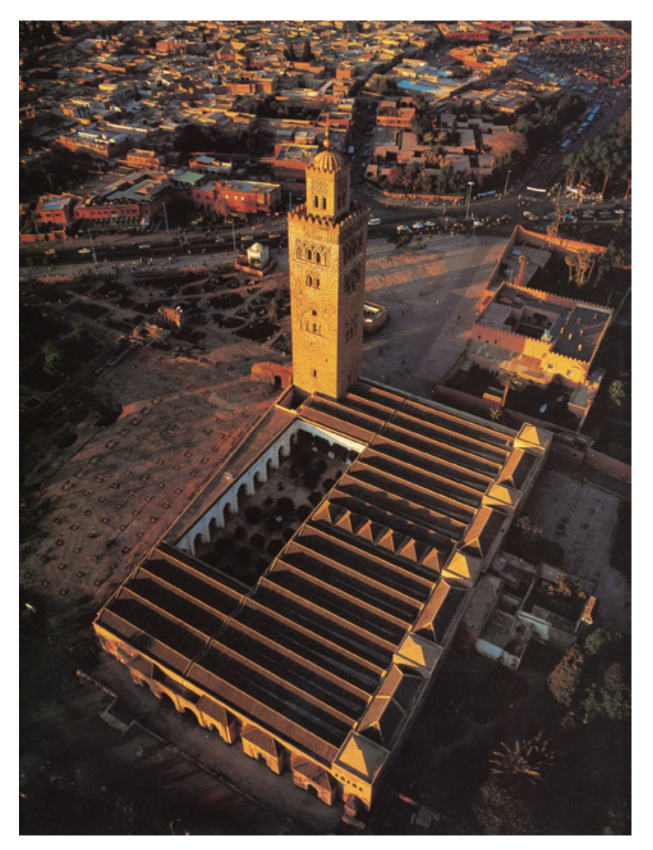


Fig. 1. Aerial view of the Kutubiyya Mosque. (Photo: Yann Arthus-Bertrand, reprinted from Jonathan Bloom, *The Minbar from the Kutubiyya Mosque* [New York: Metropolitan Museum of Art, 1998], ii)

In reality, however, the Kutubiyya was the site of two mosques, built at an acute angle to each other during the latter half of the twelfth century. Though the exact dates are uncertain (to my knowledge, there is no recorded date of completion of either the first or second of the prayer halls), the contemporary texts reveal a rough timeline of construction. On the site of ʿAli ibn Yusuf's palace, which had been destroyed in the Almohad takeover of Marrakesh, ground was broken for the first Kutubiyya in 1147, and the structure was completed by 1157. That same year, it seems, construction began on a "second Kutubiyya" adjacent to the first. By 1158, this second building was sufficiently completed for the performance of prayers, though it was not finished until 1162 at the earliest. The second Kutubiyya was accessed through the qibla wall of the first, reorienting the new qibla further towards the south; though the first iteration of the mosque is no longer extant, visitors to the site can still see the brick piers and back wall that outline how the two structures would have aligned (fig. 1).[4] The result was an oddly angled arrangement of two individual mosques separated by a thin wedge of space, both adjoining the minaret that stands between them, the first mosque at its southeast corner and the second at its northeast.

Why then did ʿAbd al-Muʾmin decide to build two contiguous mosques within the same decade? The explanation for such an odd expansion is murky at best, for authors of the period merely comment on the second mosque's existence, never its logic. In an anonymous twelfth-century text known as the *Kitāb al-Istibṣār* (The Book of Insight), the author notes the continuing coexistence of the two structures: "And then the Caliph and Imam [ʿAbd al-Muʾmin] constructed there a great congregational mosque, which he then enlarged with one similar to it, towards the qibla where the palace once was, and between them was raised the most grand minaret, of which there had been none like it [before] in

Islam."[5] With the later addition, the Kutubiyya nearly doubled in size and, while not precisely symmetrical, nevertheless retained the sense of spatial unity and focus that became so characteristic of Almohad mosques.

QIBLA ORIENTATION

The most popular explanation of the Kutubiyya's irregular construction history and unusual arrangement and expansion is that the second version of the mosque was built to correct a faulty qibla orientation. This theory, first proposed in 1925 by scholars Henri Terrasse and Henri Basset in a series of articles for the journal *Hespéris*, used as its primary evidence the angular arrangement of the two prayer halls.[6] This theory was then promoted by their colleagues George Marçais and Gaston Deverdun. Modern scholars, however, have rightly pointed out that such an explanation ignores the fact that the new qibla is further away from Mecca than the original.[7] Utilizing the Great Circle Route (i.e., the shortest distance to Mecca), which is how scholars have traditionally addressed the topic of qibla orientation, qiblas in Marrakesh should follow a 91° azimuth. When construction began on the first Kutubiyya, it was oriented to 154°, before being adjusted in the second structure to 159° (fig. 2).

Deviations from the mathematically precise qibla direction were not unusual in the medieval period, particularly in Egypt, Ifriqiya, and the Maghrib al-Aqsa, where examples of variant qiblas have been widely noted. The Kutubiyya is thus not especially remarkable for this deviation, though a satisfactory response to the phenomenon is necessary. Scholarly attempts to justify this variation have, thus far, focused on retrofitting the qibla orientation to the urban structure of the surrounding environs. Terrasse, in a response to a query from George Sarton concerning the proliferation of inaccurate qiblas in medieval Islamic mosques, posited that the variation was due to the spatial restrictions posed by existing urban plans.[8] In the case of Fez and Marrakesh, Terrasse explains, mosques exhibit similar orientation according to a dynastic (epochal) pattern, with variations arising from a change of ruling powers.[9] Though overly simplistic, Terrasse's theory is not entirely without merit; an archaeological examination spanning the duration of Islamic architecture in the Maghrib al-Aqsa reveals that two coherent trends fall along dynastic lines.

In the region that is contemporary Morocco, mosques exhibit a wide variety of qibla directions, with the majority ranging between 150° and 120°.[10] Not until the early seventeenth century, under the Alawite dynasty, do qiblas begin to be oriented closer to the 91° azimuth, and even then there is some distinction between sites that were renovated by the Alawites or established in cities with preexisting religious foundations, and sites that were constructed in new dynastic urban centers. Of the thirteen extant Alawite constructions surveyed by Michael Bonine in his 1990 study of Moroccan qiblas, only six fall within 15° of the "correct" qibla direction.[11] The great mosques of Essaouira and Ouazzane were not built until the eighteenth century, after the foundation of these two cities. The Alawite dynasty sponsored two mausoleums—one for Moulay Ismaʿil (d. 1727) in Meknes, and the other for Idris I (d. 791) in Moulay Idris—which became the primary impetus for urban growth in these towns. From this information, Bonine infers an inherent connection between qibla direction and city structure—that spatial restrictions and urban morphology inhibited new religious foundations from a correct orientation.[12] And yet, such an inference is undermined by the evidence: the two mosques with the closest-to-"correct" qibla orientation are the nineteenth-century Ben Youssef Mosque in Marrakesh (built on the foundations of the Almoravid Masjid al-Siqaya) and the eighteenth-century Er-Rsif (Rasif) Mosque in Fez, both of which were constructed in areas with a preexisting structure of dense urban settlement. A mathematically accurate (or mathematically determined) qibla direction does not appear to have been a major determinant in the construction of Maghribi religious sites until well into the eighteenth century, and even then its application is sporadic.

The most consistent qibla orientation is instead to be found at Mu'minid sites, all of which fall around 150°. (The exception is the mosque at Salé, which was built upon Almoravid foundations and thus follows that mosque's orientation; there, the qibla is directed almost due south, an extreme deviation from the mathematical qibla.) As most of these sites are in cities that were constructed or significantly renovated around the time the mosques were founded, Bonine's claim that erroneous

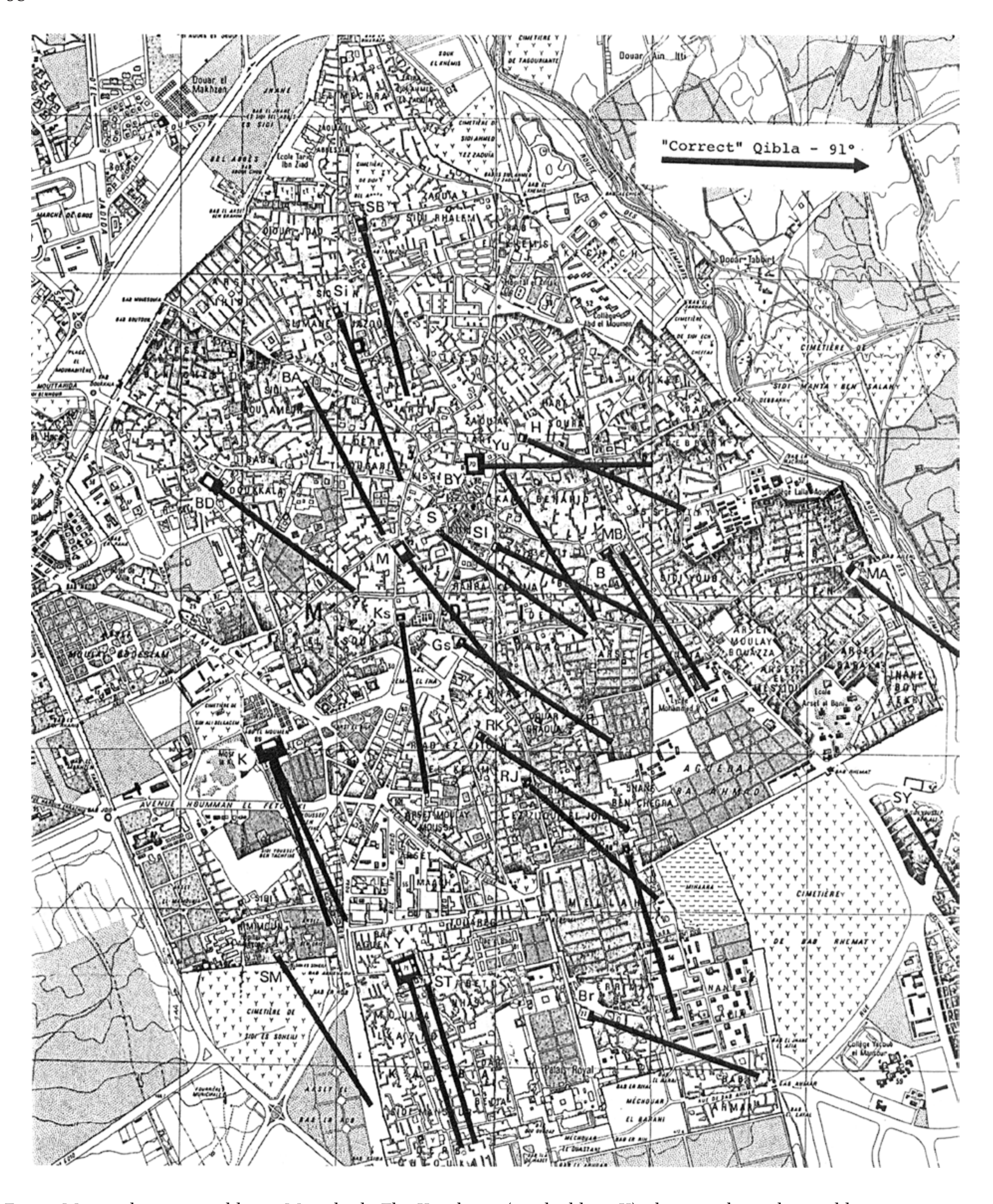


Fig. 2. Map with various qiblas in Marrakesh. The Kutubiyya (marked by a K), showing the earlier and later orientations (right and left, respectively). (Plan: reprinted from Michael Bonine, "Sacred Direction and City Structure: A Preliminary Analysis of the Islamic Cities of Morocco," *Muqarnas* 7 [1990]: 63)

qibla directions result from urban pressure and topography must be amended. Particularly in Marrakesh, where ʿAbd al-Muʾmin spared no expense to erase the reminders of the Almoravid city, the orientation of the Kutubiyya's qibla could not have been dictated by the petty constraints of the urban fabric. This invites an alternative explanation not only for how the Maghribi qibla was determined, but also how we as scholars define the medieval-period qibla: how it was then interpreted and how these interpretations have historically been understood.

Bonine's study is indebted to the work of scholars such as David A. King, who have focused on qibla direction primarily as a function of astronomical and mathematical science in the medieval Islamic world. The intellectual corpus devoted to accurately measuring the qibla direction incorporated both observational knowledge (of the rising and setting of the sun, the position of fixed stars, etc.) and mathematical calculations, recorded in geometrical tables (*zīj*) that employed and adapted Greek formulae such as the analemma and the Theorem of Menelaus.[13] This endeavor appears to have reached a peak during the fourteenth century, when Syrian, Iranian, and Central Asian astronomers produced detailed treatises that outlined their methodologies for spherical geometry. The most sophisticated of these is a set of tables by al-Khalili (d. 1375), a Syrian astronomer connected with the Great Mosque in Damascus, who, using well-established principles of spherical geometry, developed an ingenious series of auxiliary functions to calculate the qibla for the latitudes and longitudes of the known Islamic world—over 3,000 entries in total.[14]

Within this text, al-Khalili specifically endorses the trigonometric method developed by Abu ʿAli al-Marrakushi (d. 1281–82), also commonly referred to as Abu al-Hasan, an astronomer of Maghribi origin who compiled his work in Cairo in the late thirteenth century.[15] This serves as an important counterpoint to the impression of the Maghrib as an intellectual backwater. Furthermore, at least one Maghribi astronomer, Abu al-ʿAbbas ibn Ishaq al-Tamimi al-Tunisi (d. 1222), even if heavily influenced by Andalusian astronomers, can be assigned to Marrakesh during the reign of ʿAbd al-Muʾmin and Abu Yaʾqub Yusuf.[16] While other astronomical schools (particularly in al-Andalus) were more prolific, those in the Maghrib al-Aqsa were aware of the scientific conversations of the day and—in contradiction to certain theories put forward, e.g., by Terrasse—were entirely capable of calculating a mathematically accurate qibla. And yet the profusion of erratic qibla directions in the region, as chronicled by both Bonine and his predecessors, indicates a different understanding of how the qibla was determined, at least for the orientation of religious sites.

While scientific discussion yielded increasingly sophisticated methods of defining a precise geographic calculation, the heuristic application of these methods was impractical, a point seized upon by the *fuqahāʾ* (Islamic jurists), for whom it was essential that spiritual practice be easily carried out by the average practitioner.[17] This emphasis on pragmatism could be derived from the Qurʾan, where it is said: "And strive for God with the truest endeavor. He has chosen you and has not laid upon you any difficulty in your religion."[18]

For many of the *fuqahāʾ*, ease of practice and local traditions (*jiha*, or general direction) were more significant factors in determining the qibla direction than mathematical geographic accuracy, or *samt* (azimuth), though these were not always mutually exclusive. Maghribi jurists had established a hierarchy of qibla orientations as early as the twelfth century, with each class of qibla orientations based on the method of orientation employed.[19] The most reliable, authoritative qiblas are based on sight or familiarity with the Kaʿba and its surrounding environs, and thus are limited to the cities of Mecca and Medina. From there, the hierarchy falls to those directions dictated by consensus of the imams, following traditional models such as the Great Mosques in Jerusalem and Qayrawan, and on the Qurʾan or hadith, the most reliable authorities of transmission. The final categories are reliant on reasoning (*ijtihād*) and precedent (*taqlīd*), though both methods come with addenda that complicate how they are understood. *Ijtihād*, which results from an investigation of both the law and natural observation, is ranked higher than *taqlīd*, though it is not necessary for the mujtahids to come to a consensus with regard to their findings. Ibn al-Bannaʾ (d. 1321), a Marrakeshi astronomer and jurist, explains that despite this lack of consensus, the mujtahids are right in their intent to find truth, which is more important than the result of their analysis.[20] *Taqlīd*, on the other hand, encourages qibla orientation based on precedence, and urges Mus-

lims, in the absence of any better authority, to pray in the direction indicated by the nearest mosque. The twelfth-century Almoravid-era jurist Abu ʿAli al-Mittiji criticized the legitimacy of this method, however, because of the evidence he had seen in the Maghrib al-Aqsa. Originally from Aghmat, though he likely wrote from Ceuta or Tangier, al-Mittiji argued that Maghribi mosques had derived their south-facing orientations from bad *taqlīd*; considering that he writes before the foundation of ʿAli ibn Yusuf's mosque, and refers to Marrakesh not by name but simply as *madīnat al-sulṭān*, we can assume that he is referring to some other Maghribi precedent.[21]

As has been mentioned, a southerly qibla orientation was not limited to the Kutubiyya and other Muʾminid mosques, but was widespread in both the Maghrib and al-Andalus. The Great Mosque of Cordoba proved an influential force in the architectural memory of those in the region who sought to legitimize themselves through continuity with the Andalusi Umayyad dynasty, which had ostensibly brought Islam to the Maghrib and al-Andalus. The horseshoe arches of the mosque, its parallel gables over arcades perpendicular to the qibla wall, and the foresting effect of its colonnaded hypostyle prayer hall are all survivals of a Levantine typology reinterpreted on the Iberian Peninsula, and then reiterated throughout the medieval Islamic West.[22] In particular, the direction of the qibla, which was oriented due south in imitation of the Great Mosque of Damascus, recalls "a historical link between the mosque founded during the original conquest and the 'new' mosque built after the reestablishment of the Umayyad caliphate of al-Andalus."[23] The Qarawiyyin (ca. 857, with Almoravid expansions between 1134 and 1143) and Andalusian (ca. 859–60) mosques in Fez would also follow this precedent, as would the Kutubiyya in the mid-twelfth century. But the assumption that these major mosques were all constructed solely on the basis of one politically symbolic reference to Damascus or, worse, due to a faulty *taqlīd* is overly simplistic and largely unsatisfying.

Instead, it may be more productive to examine the underlying logic of these similarities in orientation, seeking a methodological interpretation rather than a political one. This is not to say that qibla orientation does not carry political weight; on the contrary, justifications for changing the qibla were highly charged (as will be explored below), but such changes still required acceptable juridical reasoning to support them. The Great Mosque of Damascus, as well as other mosques in early Islamic Syria, were oriented using the rising point (*maṭlaʿ*, pl. *maṭāliʿ*) of the star Suhayl al-Wazn, commonly known today as Canopus (fig. 3).[24] The second-brightest star in the sky, Suhayl al-Wazn (Bright Star of the Weight) is so named for its hovering visibility along the horizon in the northern hemisphere, with a northern limit along latitude 37°18′, roughly that of such Mediterranean cities as Seville and Agrigento.[25] The major axis of the Kaʿba itself was aligned with the local *maṭlaʿ* of Suhayl, thus granting legitimacy to using the star as a guide for finding the qibla in terms of *jiha* rather than *samt*. Through this process, mosques would then be aligned parallel to a specific wall of the Kaʿba, following a sacred geographical organization by which the world was divided into sectors around the Kaʿba, with each region of the Islamic world corresponding to a particular sector.[26] Is it possible that this rule was applied to those south-facing mosques in the Maghrib and al-Andalus as well? Certainly, it appears to be the case for Cordoba. Despite a number of retrospective explanations, dating from the eleventh to the sixteenth centuries, of the astronomical calculus used to derive Cordoba's nearly due-south qibla (approximately 152°), only a historical anecdote provides a reasonable explanation. According to Ahmad ibn Faris al-Munajjim, the court astrologer to Umayyad caliph al-Hakam II (d. 976) in the latter part of the tenth century, the caliph requested that ibn Faris climb a mountain near Fuengirola to check whether Suhayl was visible from its peak before embarking upon his elaborate expansion of the Cordoba mosque.[27] The star was not, in fact, visible from the site, as later confirmed by Ibn Rushd; given its absence of visibility, it was decided that using the rising point of the sun at the summer solstice would yield an approximate orientation towards Suhayl, and thus an acceptable qibla. Though other Andalusi mosques would deviate from this pattern—significantly, al-Hakam's mosque at Madinat al-Zahraʾ, which boasts an astronomically derived qibla, as well as the mosque of the Palace of Comares at the Alhambra in Granada—the majority would follow the example set at Cordoba, which the *fuqahāʾ* fiercely defended.[28]

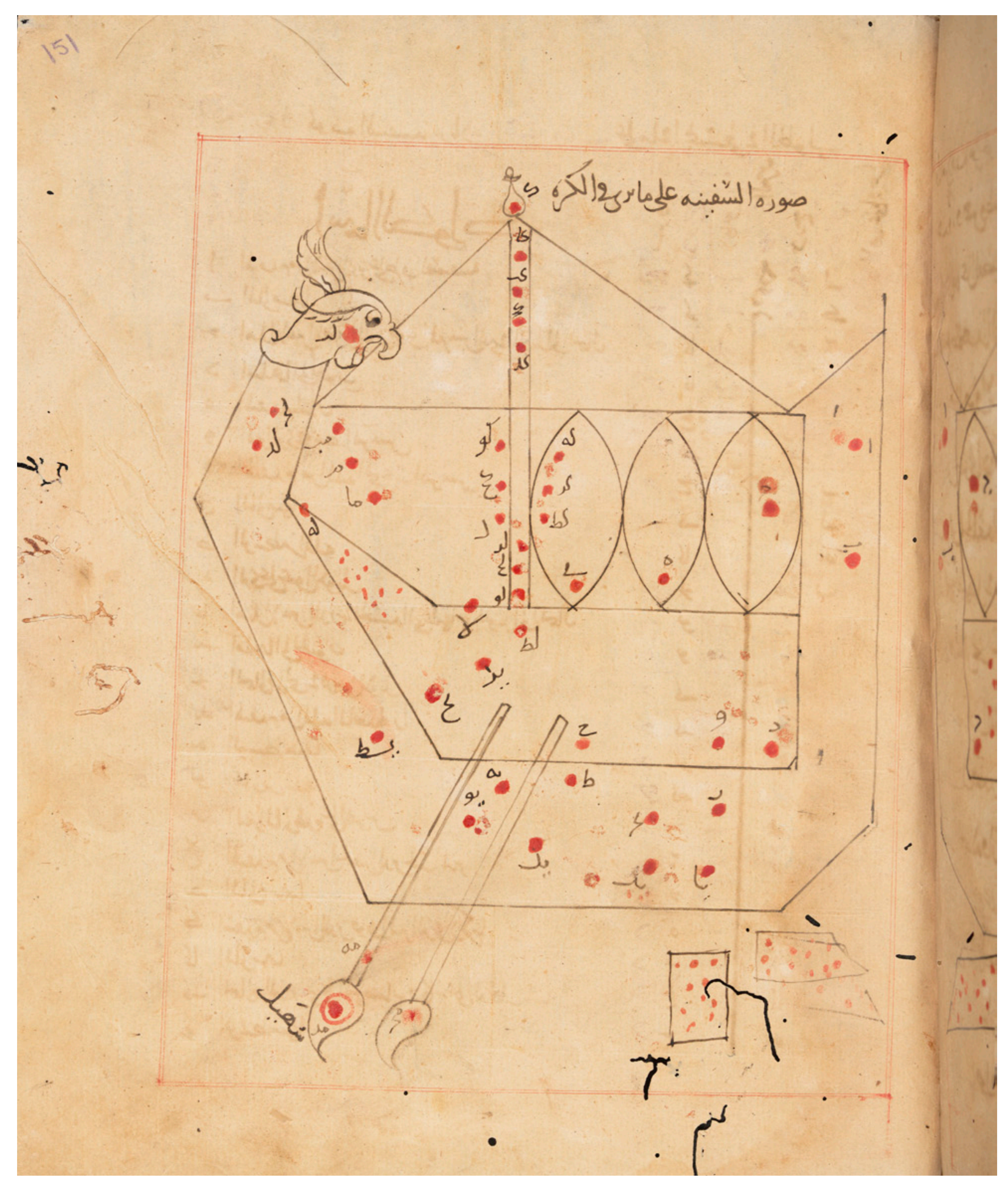


Fig. 3. Folio from a twelfth-century copy of ʿAbd al-Rahman al-Sufi's *Kitāb ṣuwar al-kawākib.* Bodleian Libraries MS Huntington 212. (Photo: courtesy of Bodleian Libraries, 2017)

By comparison, the wide variety of qibla directions in the Maghrib al-Aqsa initially appears at odds with both the relatively easy use of Suhayl to calculate the *jiha* and the wealth of available astronomical and legal treatises concerning the qibla. However, the larger and more prestigious institutional mosques, such as the Qarawiyyin and Andalusian mosques, can be shown to have used Suhayl as a directional guide, and for the Kutubiyya the case becomes even more convincing. In Marrakesh, Suhayl rises at approximately 158°, within a mere 1° variation from the second iteration of the Kutubiyya's qibla, whose angular adjustment now is explained. Following in the tradition and *taqlīd* of regional qiblas, the Mu'minids employed a method that was both widely accepted by the religious elite and easily accessible to their Muslim followers. More than mere participation in received wisdom, however, the frenzy of architectural activity between 1157 and 1158 reveals ʿAbd al-Mu'min's particular concern for an accurate qibla orientation as a means of distancing his nascent dynasty from its Almoravid predecessors. In an archaeological plan reconstructed from the remains of the minaret at ʿAli ibn Yusuf's mosque in Marrakesh, Deverdun and Charles Allain attest that the Almoravid construction would have been oriented at 110°, significantly farther to the east and closer to the astronomically accurate qibla than any predecessor in the Maghrib al-Aqsa (fig. 4).[29] Together with the mosque at Salé, whose foundations were subsequently built over, the mosque of ʿAli ibn Yusuf points to the Almoravids having constructed the earliest east-facing mosques in the region, a practice that would not be resumed until the Merinids took power in the fourteenth century.[30] This change was likely a contentious one, as evidenced by ʿAli ibn Yusuf's invitation to a number of jurists to come to Marrakesh and consult on the appropriate direction for the orientation of the mosque (which would then determine the larger urban plan). Among those respected guests was the qadi of Cordoba, Abu al-Walid Ibn Rushd (d. 1126), grandfather of the preeminent Mu'minid philosopher of the same name; it was he who recommended that ʿAli ibn Yusuf orient his mosque toward the east in imitation of the mosque at Qayrawan and following the qibla of the Companions of the Prophet (*ṣaḥāba*), using the point of the sunrise at the winter solstice.[31]

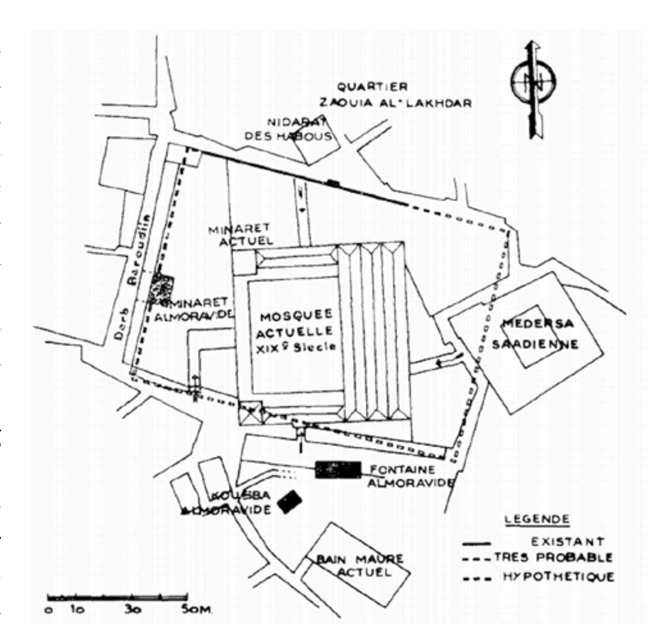


Fig. 4. Hypothetical reconstruction of ʿAli ibn Yusuf's mosque in Marrakesh. (Reprinted from Gaston Deverdun and Charles Allain, "Le minaret almoravide de la mosquée Ben Youssef à Marrakech," *Hespéris Tamuda* 2 [1961]: plate 3)

The change of qibla direction was a chief reason Marrakesh was deemed impure at the time of the Almohad takeover—an issue that had to be addressed before ʿAbd al-Mu'min's forces would enter the city. According to al-Baydhaq's twelfth-century chronicle, *Akhbār al-Mahdī ibn Tūmart wa-bidāyat dawlat al-Muwaḥḥidīn* (A Report of the Mahdi Ibn Tumart and the Beginning of the Almohad Empire), concerning the rise of the Almohads' spiritual founder:

> And for three days no one was allowed to enter Marrakesh, and no one was allowed to leave it, and they [the Almohads] debated amongst themselves about living there, so the jurists went and said to them, "Why are you not dwelling there?" And the Almohads said to them, "The Mahdi [Ibn Tumart] forbore from doing so, especially because of the easternization of its mosques away from the correct qibla, which is not crooked. For there is to be no deviation amongst the community of Muhammad, peace be upon him."[32]

The question of urban purity was of such great importance that not only was it necessary to build a new place of worship, but also to destroy any prior architecture

that might invalidate the Almohads' efforts. Though few of al-Baydhaq's comments about ʿAli ibn Yusuf's mosque are free from Almohad bias, archaeology reveals the objective measure by which it was deemed impure: that of its east-facing qibla. By returning to the Suhayl method of determining the direction of prayer, already established at the preeminent spiritual center of Fez, ʿAbd al-Mu'min would have ensured the legitimacy and validity of his and his followers' prayers. It is then no great leap to attribute the rapid reorientation of the Kutubiyya, coming barely a decade after the city's conquest, to the concern over a more accurate, legitimate qibla.

While not unique in the Maghrib al-Aqsa, or even in the Islamic world more broadly, the importance accorded to determining the qibla in the Almohad era would have a profound effect on the rest of the Mu'minid dynasty's architecture and urban development. The Suhayl method was applied consistently across the Mu'minids' Maghribi constructions, from Tinmal in the south to Rabat in the north (with the exception of Salé, as noted above), a uniformity not seen again in the region until the nineteenth century, under the Alawites. Far more than simply following received wisdom from the Abbasid east or adopting the models of Cordoba and Fez, the decision to turn toward Suhayl carried a sense of return to form. Rather than relying on esoteric (and what Mu'minid jurists may have considered unreliable) knowledge, the Mu'minid qibla employed a well-established popular astronomical method accessible to believers of all social strata.

ONE MADINA, ONE JAMIʿ

Having established a reasonable cause for the Kutubiyya's change in direction, we must now turn to the manner in which it was adjusted and expanded. By adding another prayer hall angled out from the qibla wall of the first, ʿAbd al-Mu'min created a unique structure that raises a number of questions for architectural historians. Chief among these is whether or not the later building was considered a "second" congregational mosque, a separate entity from the first, which would have gone against local convention as well as Maliki juridical precedent. Contemporaneous sources are ambiguous in their description, referring to the expansion simply as "another [one] like the first [mosque]," when they do refer to it at all.[33] Archaeological evidence is similarly ambiguous, though it does confirm that the two halls coexisted at least until the seventeenth century, after which the earlier mosque was either demolished or allowed to fall into a state of disrepair. According to the archaeological excavations undertaken by Jacques Meunié and Henri Terrasse, the two prayer halls were connected via the "hinge" of the minaret, which then extended out into a triangular colonnaded walkway, creating a single enclosure that encompassed the two buildings (fig. 5). The minaret itself appears to have been integrated into both buildings, as stones of its foundation were part of a *blocage* that extended behind the southeast qibla wall of the first prayer hall (fig. 6). Meunié and Terrasse take this as evidence that "the intention of the builders of the minaret was to keep the first mosque; had they thought to demolish it [in the near future], they would not have built the prototype and most beautiful of the Almohad [*sic*] minarets with this indelible outgrowth."[34] This theory is bolstered by the discovery of whitewash remnants on the exterior of the *blocage*, which likely indicate that it was intended as an exterior surface rather than as mere constructive material.

Meunié and Terrasse emphasize that the evidence above is all the more striking as it disrupts what they consider to be the hallmark of Mu'minid architecture: its unity, symmetry, and architectural order. The plan of the original building displays a strictly hierarchical system of proportion in its spatial organization, concentrating on the central axis and qibla wall. The T-type hall is made up of seventeen longitudinal bays; each bay is 4.2 meters in width, except for the central bay, which is 5.6 meters wide. Perpendicularly, there are eleven latitudinal bays, each approximately 4.2 meters wide, except for the southernmost bay along the qibla wall, which measures 4.9 meters. Measured from the exterior, the total width of the building is approximately 80 meters and its length approximately 60 meters.[35] Situated along the north wall is a courtyard (*ṣaḥn*), equal in length to the nine longitudinal central bays, including the larger central one, and in width to four latitudinal bays, for a total of 45 by 24 meters. The outermost eight longitudinal bays, four on each side of the courtyard, are thus ex-

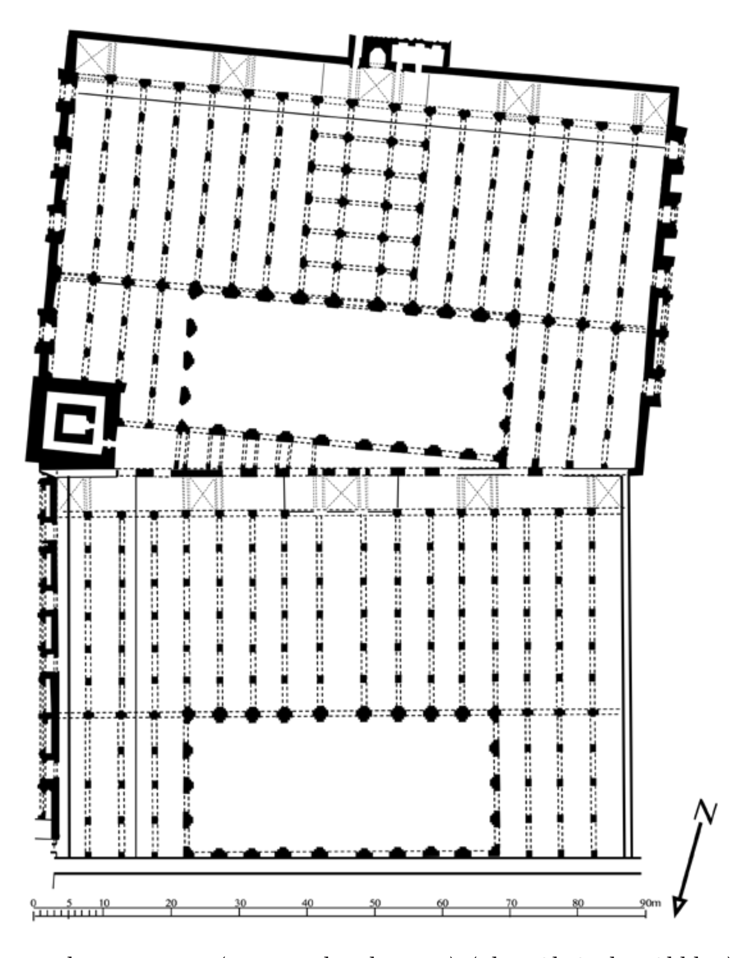


Fig. 5. Ground plan of the Kutubiyya Mosque (excavated and extant). (Plan: Ali Asghar Alibhai)

tended out towards the north to complete the rectangular arrangement and form annexes to either side. Proportionally, the total length of the longitudinal naves is equal to six times the width of the large transverse nave along the qibla wall, around 36 meters, while the courtyard takes up roughly one-fifth of the prayer hall's total footprint. The result is a space that places particular emphasis on the central and transversal aisles—the T part of the plan—and that ostensibly would have been large enough to hold an entire congregation (at least upon ʿAbd al-Muʾmin's initial conquest of Marrakesh) without losing the sense of direction towards the central axes and the mihrab.

This spatial arrangement poses specific challenges to expanding the space, which Meunié and Terrasse suggest was the impetus for the construction of the second prayer hall, leaving aside momentarily the issue of qibla direction. If the major requirement of a congregational mosque is that it provide enough room to support the city's faithful inhabitants, then a rapid increase in the city's population necessitates a corresponding expansion of the prayer hall, an established issue addressed in regional precedents. Yet again, Cordoba is the most immediate example: the original eighth-century structure was deemed insufficient to house the city's growing numbers, and the hall was subsequently expanded to accommodate them, a phenomenon that repeated itself throughout the ninth and tenth centuries. The first expansion, under ʿAbd al-Rahman II in 836, pushed back the qibla wall by seven latitudinal bays, while the second expansion, under al-Hakam II in the middle of the tenth century, added a further twelve bays southwards in the



Fig. 6. Photograph showing the integration of the northern arcade with the base of the minaret. (Photo: Abbey Stockstill)

same direction, as well as revamping the courtyard and minaret. This created a prayer hall that was extremely narrow, with the directional gaze oriented through a lavish ornamental program, including a stunning mihrab and *maqṣūra*, rather than through spatial markers. The symmetry of the building was further compromised under al-Mansur's expansion, between 987 and 988, which added eight longitudinal bays toward the east and adjusted the courtyard accordingly to maintain a rectangular structure. This, however, threw the centrality of the mihrab completely off-balance, creating the mystifying effect of forested arches and columns that would become the mosque's signature.

Had this method been employed at the Kutubiyya, the symmetrical and proportional organization would have been lost in the awkward dimensions of an overlong building. What is more, the stone wall that runs along the exterior of the qibla aisle, a remnant of ʿAli ibn Yusuf's palace, could not have supported additional bays to either side without retrofitting the wall with additional stone, a prospect that appears unlikely given the Kutubiyya's strict hierarchical order. Whereas mud brick, sandstone, and plaster form the lateral and back (northern) walls of the prayer hall, the qibla wall is highlighted through stone, which provides the support for five domes that would have crowned the area directly in front of the mihrab.[36] Expansion to either side, or even through the qibla wall, would have necessitated the destruction of this wall. Furthermore, the system of cisterns that runs under the courtyard of the first prayer hall, originally belonging to the Almoravid palace, also limited the expansion of the mosque to the north (fig. 7). In order to move the courtyard and ablutions fountain back, the cisterns would have had to be excavated and removed. Expanding the building in this manner would thus have been both labor-intensive and inefficient—and would have failed to address the problem of qibla direction.

It would also appear that a specific emphasis was placed on employing parts of the Almoravid structure in the Almohad prayer hall, one that would have precluded the removal of either the stone qibla wall or the cisterns. In light of ʿAbd al-Mu'min's attention to the closure or destruction of the city's Almoravid monuments, the reuse of Almoravid elements in such highly charged places within the Kutubiyya is deserving of attention. In addition to the cisterns and wall from ʿAli ibn Yusuf's palace, the mosque also houses an elaborately carved wooden minbar taken from the Masjid al-Siqaya, for which it had been made in Cordoba at the height of Almoravid power (fig. 8).[37] The fine craftsmanship and rich detail with which this minbar had been constructed made it a prized object, and it was evidently one of the aesthetic marvels of its day, exemplary of its patron's wealth and access to luxury-import resources. In the first Kutubiyya, the minbar was placed next to the mihrab, a place of honor for an object associated with a deposed dynasty whose influence nevertheless still posed a threat to the nascent reign of ʿAbd al-Mu'min. And yet this is precisely why objects like the minbar, and even such remnants of the Almoravid palace as the wall and cisterns, were maintained and reoriented in a new



Fig. 7. Aerial view showing cistern excavation. (Photo: Abbey Stockstill)

visual context. The mihrab, as an object intentionally removed from one space and reinstalled in another, carries relatively conspicuous triumphalist connotations, but the connotations of the palatial remnants are less clear. Following Anthony Cutler's distinction between "use" and "reuse," the employment of the stone wall and the cisterns would fall into the former category, as objects incorporated into something new with a view to a need in the present.[38] Nevertheless, they—particularly the stone surface serving as the qibla wall—also subtly set the stage for the minbar, and thus carry some ideological weight. In the absence of sources that discuss such references, this theory is perhaps speculative at best, but it may help to highlight why the Kutubiyya's earlier incarnation was not simply demolished upon the recognition of its "inaccurate qibla," or else expanded and adjusted following regional precedent.

How then can we interpret the Kutubiyya's second iteration in relation to the first? Were the two considered separate, active prayer spaces, and if so, how was this justified in light of the popular dictum in the Islamic West that there be only one congregational mosque per city? The problem posed by the concept of the *masjid al-jāmiʿ* was tied up with the legal issue of defining the boundaries of the city and providing for its spiritual needs, a debate rapidly brought to the fore with the foundation and expansion of urban settlements throughout the Islamic world, though specific issues were raised with the new settlements in the eighth-century Maghrib. Fez, for example, functioned from its inception as a bifurcated city, its eastern and western halves separated by the Wadi al-Kabir, which posed challenges to the practicalities of daily life. According to al-Jaznaiʾi's fourteenth-century history of Fez, *Zahrat al-Ās* (The Myrtle Flower), Idris II (d. 828) paid careful attention to the ability of each riverbank to support its inhabitants, inquiring as to its air quality, soil, prevailing winds, water conditions, and defensibility.[39] Only in



Fig. 8. Minbar from the Kutubiyya Mosque. (Photo: reprinted from Jerrilynn D. Dodds, *Al-Andalus: The Art of Islamic Spain* [New York: Metropolitan Museum of Art, 1992], 363)

809, after the completion of this inquiry, was the layout of the city confirmed, with each bank receiving a number of gates and walls, though notably not as a singular enclosure. Idris II then sponsored two congregational mosques: the *ʿudwat al-Andalus* (Andalusi riverbank) housed the Masjid al-Ashyakh (Mosque of the Shaykhs), while the *ʿudwat al-Qarawiyyin* (Qarawiyyin riverbank) had the Masjid al-Shurafa (Mosque of the Sharifs), which was attached to the royal residence. The contiguity of these events—the surveying of the city, followed by its enclosure and only then the foundation of its mosques—suggests that the two banks of the wadi were considered as separate urban entities from the very beginning, informed by their topography and the ease with which their Muslim inhabitants could attend Friday prayer. In fact, the concurrent presence of two congregational mosques was not considered a legally divisive issue until twelfth-century renovations under the Almoravid emir Yusuf ibn Tashfin, which included the construction of a new wall that encircled the entirety of Fez and a bridge that linked both banks of the river, effectively creating one *madīna*. Until then, it appears that Maliki jurists would permit a second *masjid al-jāmiʿ* should the first pose excessive difficulty for its attendants—as in this case, where the river proved difficult to cross for regular prayers—based on the principle "necessity knows no law" (*al-ḍarūrat ṭubiḥ al-maḥzūrat*).[40] According to legend, the earlier Idrisid mosques had been replaced by ninth-century structures sponsored by Maryam al-Fihri, who built the Andalusian Mosque on the right embankment, and her sister Fatima, who built the Qarawiyyin Mosque on the left.[41] Successive additions and expansions to both mosques may have sponsored a sort of rivalry between them, providing a possible incentive for Yusuf ibn Tashfin's enclosure of both banks, though this did not prevent the mosques' respective patronages. The issue was still legally debated on a regular basis into the sixteenth century, when the Qarawiyyin Mosque's role as a university and library, as well as its historical proximity to the sultan's residence and Idris II's sepulchral mosque, granted it supremacy over its sister.[42]

Juridical opinions on the role of the *masjid al-jāmiʿ* and its relationship to the *madīna*, both as theoretical concepts and in their practical applications, had a relative consensus on the proscription of two or more concurrent congregational places of Friday worship within the same city. The proscription has its source in the hadith transmitted by ʿAbd Allah ibn ʿUmar (d. 693), who declared that the Prophet never accepted more than one mosque in a city. Some Maliki scholars, such as Ibn Jallab (d. 988) and ʿAbd al-Wahab (d. 1030) then interpreted the hadith as referring to the role of the Friday prayer (*ṣalāt al-jumʿa*) in bringing together the Muslim community as a cohesive group in an act of collective experience. This definition is directly related to the Hanafi notion of *al-miṣr al-jāmiʿ*, "the all-embracing town," which Baber Johansen describes as "the idea—seemingly implied in the term—that a town should be a comprehensive social and political entity embracing various groups, rallying different factions into one community

and uniting them under one leadership."[43] Developed between the late eighth and early ninth century, the notion precedes by nearly one hundred years that of *jāmiʿ* being used to refer to the Friday mosque, and was likely concurrent with the urbanization of what is today Iraq.[44]

In its original application, *al-miṣr al-jāmiʿ* regulated the creation of new municipal entities and a politico-religious center in larger settlements, though as these cities grew and developed a suburban fabric in addition to a more densely populated center, the concept was refined and broken down into hierarchical categories.[45] Many of the outlying suburbs or townships (*arbāḍ*) would have had their own congregational mosques prior to their larger incorporation, and the question of what role these earlier mosques would play was directly related to the expanding quarter's political dimensions. Each weekly *khuṭba* (sermon) held in the Friday mosque declared the town's allegiance, through both its dedication to a specific ruler and the associated power of the collective adult male population affirming this loyalty. The *khuṭba* was therefore a powerful signal magnified through the architectural medium of the *masjid al-jāmiʿ* to communicate legitimacy and authority.[46] However, there was a diminishing rate of returns, so to speak, with the presence of multiple *masājid al-jāmiʿ* that were, as in the aforementioned case in Fez, the products of urban expansion. In smaller, less politically poignant cities, the number of Friday mosques was irrelevant so long as the needs of the community were being met. For example, the anonymous author of the *Kitāb al-istibṣār* notes that nine *khuṭba*s were said in twelfth-century Meknes, describing it in actuality as four different cities (*mudun*) with a number of satellite villages (*qurā*) and fortresses (*ḥuṣūn*), each of which possessed its own attendant *masjid al-jāmiʿ*.[47] Such a plurality suggests that the profusion of congregational mosques was acceptable in cities where urban allegiance, expressed through the *khuṭba*, was not a significant question for its rulers. Such was the case in Fez, and similar issues can be attributed to Marrakesh in the transition from an Almoravid city to an Almohad one.

The role of the mosque in promoting urban unity was a key point of city development, a particularly important issue for a ruler such as ʿAbd al-Muʾmin in his early reign. The care taken to either close or demolish Marrakesh's Almoravid mosques highlights this fact, but the same logic also applies to the city's Almohad constructions. It has been suggested that one of the reasons for maintaining the earlier, inaccurate prayer hall was to better separate the Almohad caliph from his detractors within the city; while many former Almoravid supporters had acceded to his victory, ʿAbd al-Muʾmin still faced dissent from within Almohad ranks, putting down two rebellions fomented by Ibn Tumart's brothers in the 1150s.[48] Certainly the heterogeneous makeup of mid-century Marrakesh, both political and ethnic in nature, would have caused tension within the city walls, but whether this would be enough to justify a second prayer hall within the same *madīna*, let alone at the same site, seems unlikely.

It was not only the arguments for having only one mosque per city that stressed the importance of gathering and community; the concept of an all-embracing ideology was integral to the preaching of Ibn Tumart as well. He knew that the Almohad movement would never survive on the basis of tribal affiliations alone, and thus structurally integrated a hierarchy of loyalty based on his charismatic personality and subscription to the Almohad principles of *tawḥīd* (unity).[49] This was a key philosophy for the Almohads, and therefore the responsibility of the Muʾminids to promote. The concept of *tawḥīd* would later be advocated in historical accounts of the Great Mosque in Seville, built by ʿAbd al-Muʾmin's son and successor, Abu Yaʿqub Yusuf (d. 1184). The Almohad historian Ibn Sahib al-Salat (d. 1203) describes the new mosque in Seville in terms of its expansiveness, directly contrasting it with the early ninth-century Ibn ʿAdabbas Mosque, which had purportedly become too cramped for the city's growing population.[50] His description uses the two mosques as metaphors, contrasting the spiritual unity and coherence embodied in the Almohad project with the civil strife and discord of pre-Almohad Andalusi society, thereby linking the architecture to the notion of *tawḥīd*.[51] Such metaphors may recall ʿAbd al-Muʾmin's reign and the construction of the Kutubiyya. Given the great importance of community not only for the movement itself but also for ʿAbd al-Muʾmin's transition to caliph, using the dual prayer halls as a way to divide the dynasty's supporters from its dissenters would be counterproductive.

The only attested example of such a division between communities in an Almohad imperial city is in Rabat,



Fig. 9. View toward the northwest of the remains in Rabat of the Almohad mosque, including its unfinished minaret, now known as the Tour Hassan. (Photo: Abbey Stockstill)

where the urban relationship with the older preexisting settlement of Salé recalls that of bifurcated Fez. Originally established by ʿAbd al-Muʾmin in 1150 as a port from which to launch invasions of the Iberian Peninsula, Rabat's early form consisted of a walled fort that enclosed a palace and congregational mosque, and a series of reservoirs that stored fresh water from the ʿAyn Ghabula spring, nearly ten miles away.[52] Meanwhile, Salé continued to function more or less independently, with its own *masjid al-jāmiʿ*, though recent scholarship by Mohammed Es-Semmar suggests that the urban structure of the two cities requires us to consider them as linked.[53] As part of the construction efforts undertaken by ʿAbd al-Muʾmin's successors, some of them by Abu Yaʿqub Yusuf and even more by Abu Yusuf Yaʿqub al-Mansur (d. 1199), the two cities grew towards each other thanks to the almost constant traffic between them. Under Abu Yusuf Yaʿqub al-Mansur, the Great Mosque of Salé was completely rebuilt in 1196 (unfortunately it is no longer extant), followed shortly thereafter by the construction of a new, more permanent bridge over the Bou Regreg and the completion, in 1197, of Rabat's city walls along the southeastern and southwestern borders.[54] By this point, another *masjid al-jāmiʿ* was underway; as planned, it would have been the largest mosque in the world at the time (fig. 9). The presence of two congregational mosques in such close proximity, both sponsored by the same caliph, would appear to undercut the assumption that urban populations under the Muʾminid dynasty gathered for their Friday prayers at a single site. Indeed, Mehdi Ghouirgate has noted that the Bou Regreg could have formed a natural, softer boundary, so that "the Almohad authorities were separated from the mass of the governed," implying that despite the bridge linking the two cities, Rabat remained the exclusive enclave for the Muʾminid court and Almohad faithful.[55]

But the crucial point is that this mosque was never finished. With Abu Yusuf Yaqub al-Mansur's sudden death in Marrakesh in 1199, the construction on the mosque in Rabat ground to a halt.[56] Damaged by the 1755 Lisbon earthquake, the full extent even of what *had* been completed in the twelfth century can never be realized, but with its eighteen transversal bays and three courtyards, it easily could have housed the populations of both Rabat and Salé.[57] Its positioning between the

two cities—on the highest point along the river and equidistant from Rabat's southernmost gate, Bab al-Rawah, and Salé's northernmost gate, Bab Sabta—suggests that this was precisely its function, to unify both sides of the Bou Regreg.[58] Further strengthening this unification are the placement of Rabat's walls along the landed city boundaries, leaving open the northern side, facing Salé, and the construction of the bridge as a link between the two cities. But unlike Fez, where the walled unification of two riverbanks threw the two congregational mosques into competition, the Hassan Mosque, had it been completed, would likely have superseded the earlier (smaller) mosques of both Rabat and Salé.

This case serves to demonstrate that, despite a partial and haphazard architectural record, the chronology of construction in the Mu'minid city reveals a preference for a singular *masjid al-jāmiʿ* to serve as the communal site of Friday prayers. Rabat, facing the issues of urban expansion shared by many cities in the Islamic world, addressed that expansion through the intended construction of a new and grander space, emphasizing the singularity—and therefore, the unity—of the Almohad philosophy. For a city as culturally significant as Marrakesh, then, we cannot assume that the Kutubiyya's division of space reflected a corresponding division of political classes. Instead, the function of the earlier mosque in relation to the second is likely far more mundane. Given that textual and archaeological evidence confirms that the two coexisted at least through the end of the Almohad era, I suggest that the original prayer hall was used for storage, lectures, or another communal function that may have been related to the mosque, but was not part of the prayer ritual. Its inaccurate qibla would have unacceptable given the spiritual precision demanded by the early days of the Almohads in Marrakesh, but the structure itself, which was maintained after the transition to the new hall, retained the triumphalist and symbolic elements appropriated from the earlier Almoravid building. ʿAbd al-Mu'min and his successors were experts at reusing those elements of a site that best fit their architectural vision, and the Kutubiyya is no different. While the initial wave of construction took advantage of the remaining wall and cistern system from the Almoravid palace, the second wave may have taken the same approach to the earlier building, incorporating it into the new one as a productive and functional part of the site.

CONCLUSIONS

The arrangement of the Kutubiyya's dual prayer halls is thus the product of its cultural, intellectual, and spiritual environment, a unique solution to the problem of an urban space in flux under a new dynasty. Particularly for ʿAbd al-Mu'min, the role of the Kutubiyya in creating a distinctive break from his Almoravid predecessors was paramount, so much so that the architectural problems posed by the creation and adjustment of the mosque had to be immediately addressed. The cultural weight carried by the theoretical concept of what the qibla was—an alignment towards Mecca or an alignment with it—was in the process of shifting from a legal question to a scientific one, a shift being played out architecturally in the twelfth-century Maghrib al-Aqsa between the Almoravid and Almohad mosques of Marrakesh. Issues of accessibility and a rejection of esoteric knowledge were at the forefront of Ibn Tumart's teaching, a philosophy seemingly carried through in the derivation of his followers' new congregational mosque. An "inaccurate" qibla, particularly in an era of such rich intellectual debate surrounding the subject, must have been intolerable, even if derived from a socially and culturally resonant methodology; hence the rapid redirection of the space through the second prayer hall.

But in the decade between the initial construction and the second phase, the site's visual references to its past had taken on enough meaning to prevent its destruction, though the practical concerns posed by the integration into the structure of the minaret, as well as the Almoravid wall and cisterns, may have contributed to its preservation. The clear pragmatism of the decision to extend the structure into an entirely new prayer hall is ingenious, though it flouted the convention of establishing only one congregational mosque per city. Given the Almohad emphasis on unity, and the great pains taken both by Ibn Tumart and ʿAbd al-Mu'min to unify the Berber tribes and create a cohesive community through Almohad doctrine, the likelihood that the first prayer hall was maintained as a mosque appears low. Rather, a much more mundane solution is proposed

here: the use of the space for non-ritual purposes. The innovation lies in ʿAbd al-Muʾmin's architectural responses within the urban setting to the intellectual questions of the day. The series of events that led to the unique ground plan of the Kutubiyya is made legible by close examination of the site in conjunction with the regional precedents it adopted, adapted, or ignored—an examination that reveals an actively responsive construction that engaged the dynamic between mosque and city in a creative and novel manner.

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NOTES

1. The literal translation of *siqāya*, which more often designates irrigation or a water source, may refer to the expansive underground network of channels that fed other fountains around the city, including one of the only remaining Almoravid monuments, the Qubba al-Barudiyyin. See Ronald A. Messier, *The Almoravids and the Meanings of Jihad* (Santa Barbara, CA: Praeger, 2010), 123.
2. Gaston Deverdun, *Marrakech: Des origines à 1912*, 2 vols. (Casablanca: Éditions Frontispice, 2004), 1:172.
3. Ibid., 1:173.
4. Michael E. Bonine, "The Sacred Direction and City Structure: A Preliminary Analysis of the Islamic Cities of Morocco," *Muqarnas* 7 (1990): 50–72, at 52.
5. Cited in Henri Basset and Henri Terrasse, *Sanctuaires et forteresses almohades* (Paris: Maisonneuve & Larose, 2001), 104.
6. Henri Basset and Henri Terrasse, "Sanctuaires et forteresses almohades: II. Les deux Kotobiya," *Hespéris* 4 (1924): 181–203, at 201.
7. Deverdun, *Marrakech*, 181. Georges Marçais, *L'architecture musulmane d'occident: Tunisie, Algérie, Maroc, Espagne et Sicilie* (Paris: Arts et métiers graphiques, 1955), 205.
8. George Sarton, Henri Terrasse, et al., "Notes and Correspondences," *Isis* 24, no. 1 (1935): 102–26, at 110.
9. Ibid., 110.
10. Bonine, "Sacred Direction and City Structure," 52.
11. Ibid., 54–55.
12. Ibid., 70.
13. David A. King, "Astronomical Alignments in Medieval Islamic Religious Architecture," *Annals of the New York Academy of Sciences* 385 (1982): 304; *EI2*, s.v. "Ḳibla," by A. J. Wensinck and D. A. King.
14. David A. King, "Al-Khalīlī's Auxiliary Tables for Solving Problems of Spherical Geometry," *Journal for the History of Astronomy* 4 (1973): 99–110, at 99.
15. David A. King, "Al-Khalīlī's Qibla Table," *Journal of Near Eastern Studies* 34, no. 2 (1975): 81–122, at 99.
16. Julio Samsó, "An Outline of the History of Maghribi Zijes from the End of the Thirteenth Century," *Journal for the History of Astronomy* 29, no. 2 (1998): 93–102, at 93. Biographical dictionaries note that the astronomer is better known as Ibn al-Kimad.
17. Mònica Rius Piniés, *La Alquibla en al-Andalus y al-Magrib al-Aqṣà* (Barcelona: Institut Millás Vallicrosa d'Història de la Ciència Àrab, 2000), 257.
18. Qurʾan 22:78. Translation is my own.
19. Rius, *La Alquibla en al-Andalus y al-Maghrib al-Aqṣà*, 83.
20. Ibid., 84. It is worth noting that despite Ibn al-Bannaʾ's promotion of *ijtihād*, with respect to mosques he supported an orientation "of agreement," presumably between local jurists and imams. He therefore differed from his contemporaries, namely al-Masmudi, who favored using popular astronomical methods (folk astronomy, etc.) as the means of determining a mosque's qibla. See H. Rénaud, "Ibn al-Bannāʾ de Marrakech, ṣûfî et mathématicien (XIII–XIV s. J.C.)," *Hespéris* 25 (1938): 13–42.
21. Mònica Rius, "La orientación de las mezquitas según el *Kitāb dalāʾil al-qibla* de al-Mattīyī (s. XII)," in *From Baghdad to Barcelona: Studies in the Islamic Exact Sciences in Honour of Prof. Juan Vernet = De Bagdad a Barcelona: Estudios sobre historia de las ciencias exactas en el mundo islámico en honor del Juan Vernet*, ed. J. Casulleras and J. Samsó (Barcelona: Instituto Millás Vallicrosa, 1996), 2:781–830, at 787–90.
22. Jonathan M. Bloom, "The Revival of Early Islamic Architecture by the Umayyads of Spain," in *The Medieval Mediterranean: Cross-Cultural Contacts*, ed. Marilyn J. Chiat and Kathryn L. Reyerson (St. Cloud, MN: North Star Press, 1988), 35–41, at 35.
23. Nuha N. N. Khoury, "The Meaning of the Great Mosque of Cordoba in the Tenth Century," *Muqarnas* 13 (1996): 80–98, at 84.
24. David A. King, "The Sacred Direction in Islam: A Study of the Interaction of Religion and Science in the Middle Ages," *Interdisciplinary Science Reviews* 10, no. 4 (1985): 315–28, at 320.
25. Richard Hinckley Allen, *Star Names: Their Lore and Meaning* (New York: Dover Publications, 1963), 67–72.
26. Gerald S. Hawkins and David A. King, "On the Orientation of the Kaʿba," *Journal for the History of Astronomy* 13 (1982): 102–9, at 102.
27. M. Forcada, "A New Andalusian Astronomical Source from the Fourth/Tenth Century: The *Mukhtaṣar min al-anwāʾ* of Aḥmad ibn Fāris," in *From Baghdad to Barcelona*, ed. J. Casulleras and J. Samsó (Barcelona: Instituto Millás Vallicrosa, 1996), 2:769–80. Also cited in Rius, *La Alquibla*, 115.
28. Mónica Rius, "Finding the Sacred Direction: Medieval Books on the Qibla," in *Cosmology Across Cultures*, ed. J. A. Rubiño et al., ASP Conference Series 409 (2009): 177–82, at 180.
29. Gaston Deverdun and Charles Allain, "Le minaret almoravide de la mosquée 'Ben Youssef' à Marrakech," *Hespéris-Tamuda* 2 (1961): 122–34, esp. 129–33.

30. Rius, *La Alquibla en al-Andalus y al-Maghrib al-Aqṣa*, 126.
31. ʿAbd al-Raḥmān b. Muḥammad al-Tājūrī, *Risāla fī ittijāh al-qibla bi-baʿḍ al-buldān*, ms. 6999, Bibliothèque al-Hassaniya de Rabat, 23–24. It was also the same Ibn Rushd who recommended that ʿAli ibn Yusuf construct walls around Marrakesh like those in Andalusi cities, in order to deter attack from the nascent Almohad movement. Ibn Rushd spoke from experience, having just witnessed the rebuff of Alfonso I.
32. Abū Bakr ibn ʿAlī al-Ṣanhājī al-Baydhaq, *Akhbār al-Mahdī ibn Tūmart wa-bidāyat dawlat al-Muwaḥḥidīn* (Rabat: Dār al-Manṣūr lil-Ṭibāʿa wa al-Wirāqa, 1971), 66. Translation is my own.
33. Basset and Terrasse, *Sanctuaires et forteresses almohades*, 104.
34. Jacques Meunié, Henri Terrasse, and Gaston Deverdun, *Recherches archéologiques à Marrakech* (Paris: Arts et métiers graphiques, 1952), 44.
35. The difference between the width of the bays and the total dimensions of the building accounts for the space afforded the supporting piers, plus the exterior walls.
36. Meunié et al., *Recherches archéologiques à Marrakech*, 173.
37. Jonathan Bloom, *The Minbar from the Kutubiyya Mosque* (New York: Metropolitan Museum of Art, 1998), 3.
38. Anthony Cutler, "Use or Reuse? Theoretical and Practical Attitudes toward Objects in the Early Middle Ages," in *Ideologie e pratiche del reimpiego nell'alto medioevo*, ed. Fondazione CISAM (Spoleto: Centro Italiano di Studi sull'Alto Medioevo, 1999), 1:1055–83.
39. Akel Isma'il Kahera, *Reading the Islamic City: Discursive Practices and Legal Judgment* (Lanham, MD: Lexington Books, 2012), 12.
40. Ibid., 17.
41. The al-Fihri sisters were the daughters of a wealthy merchant family that had emigrated from Qayrawan, in Tunisia (hence the name of the mosque in Fez). See *Encyclopedia of Women and Islamic Cultures*, ed. Suad Joseph and Afsaneh Najmabadi, vol. 4, *Economics, Education, Mobility and Space* (Boston: Brill, 2004), s.v. "Education: National Curricula: North Africa," by Loubna Hanna Skalli.
42. Kahera, *Reading the Islamic City*, 18.
43. Baber Johansen, "The All-Embracing Town and Its Mosques," *Revue de l'Occident musulman et de la Méditerranée* 32 (1981): 139–61, at 141.
44. Oleg Grabar, "The Architecture of the Middle Eastern City from Past to Present: The Case of the Mosque," in *Middle Eastern Cities*, ed. Ira M. Lapidus (Berkeley: University of California Press, 1969), 26–46, at 38.
45. Johansen, "All-Embracing Town," 144–45.
46. Amira Bennison, "Sectarianism in the Landscape: The Transfer of the *Khuṭba* of Fes from the Mosque of the Shurafāʾ to the Qarawiyyīn Mosque in 933 (321 AH)," *The Maghreb Review* 40, no. 1 (2015): 12–27, at 12.
47. *Kitāb al-Istibṣār fī ajāʾib al-amṣār*, ed. Saad Zaghloul Abdel-Hamid (Alexandria: Imprimerie Université d'Alexandrie, 1958), 187–88.
48. Meunié, *Recherches Archéologiques*, 42; Jessica Streit, "Monumental Austerity: The Meanings and Aesthetic Development of Almohad Friday Mosques" (PhD diss., Cornell University, 2013), 97–101.
49. Allen J. Fromherz, *The Almohads: The Rise of an Islamic Empire* (London: I. B. Taurus, 2010), 91.
50. Ibn Ṣāhib al-Ṣalāt, *Taʾrīkh al-mann bi al-imāma ʿala al-mustaḍʿafīn bi-an jaʿalahum Allāh al-aʾimma wa jaʿalahum al-wārithīn* (Baghdad: Wizārat al-Thaqāfa wa al-Funūn, 1979), 510.
51. Bennison, "Sectarianism in the Landscape," 20.
52. Janet Abu-Lughod, *Rabat: Urban Apartheid in Morocco* (Princeton: Princeton University Press, 1980), 54.
53. Mohammed Es-Semmar, "Le tissu urbain de la ville de Ribāṭ al-Fatḥ, de ses origins au XXe siècle," *Bulletins d'archéologie marocaine* 19 (2002): 363–79.
54. Abu-Lughod, *Rabat*, 56–57.
55. Mehdi Ghouirgate, *L'ordre almohade: une nouvelle lecture anthropologique* (Toulouse: Presses Universitaires du Mirail, 2014), 361.
56. Abu-Lughod, *Rabat*, 57.
57. Amira Bennison, *The Almoravid and Almohad Empires*, Edinburgh History of the Islamic Empires (Edinburgh: Edinburgh University Press, 2016), 322.
58. Ghouirgate, *L'ordre almohade*, 360.